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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,807	03/04/2002	Paul A. Christian	08935-255001	1600

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EXAMINER

MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 11/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,807

Applicant(s)

CHRISTIAN ET AL.

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 29-65 is/are pending in the application.
- 4a) Of the above claim(s) 22-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 29-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed September 27, 2004.

Election/Restrictions

Claims 22-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 27, 2004.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 13, 14, 16, 20, 21, 41-46, 50, 51, 53, 57 and 58 are rejected under 35 U.S.C. 102(b) as being anticipated by Maruta (JP 10-284075)

The rejection is maintained for the reasons of record and for the additional reasons to follow in response to applicant's salient arguments. The examiner notes that independent claim 1 has been amended to recite a "substantially air-free" inert atmosphere. As discussed in the prior Office action, Maruta teaches preparing a nickel

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oxyhydroxide battery by combining nickel hydroxide and a hydroxide salt such as sodium hydroxide in an inert atmosphere of oxygen and exposing the mixture to ozone for 8 hours. (Abstract) Maruta is considered to teach a substantially-air free atmosphere to the extent that nickel hydroxide and a hydroxide salt are combined in an atmosphere of oxygen, which is a pure gas. Air, on the other hand, is a mixed atmospheric gas of nitrogen and oxygen at 78% and 21%, respectively. Maruta's atmosphere is considered substantially air-free to the extent that pure oxygen, and not an air mixture, is present.

New claim 41 is notably modeled after original independent claim 1 with the exception that the inert atmosphere is "substantially free of carbon dioxide". This feature is considered taught by Maruta as previously applied for claim 4, in that the mixed gas atmosphere is specifically disclosed as consisting of oxygen and ozone, thus, it is considered that the atmosphere is substantially free of carbon dioxide and water. (also applies to claim

New dependent claims are treated as follows: new claim 42 for the reasons discussed for original claim 2, new claim 43 for the reasons discussed for original claim 3, new claim 44 for the reasons discussed for original claim 7, new claim 45 for the reasons discussed for original claim 8, new claim 46 for the reasons discussed for original claim 9, new claim 50 for the reasons discussed for original claim 13, new claim 51 for the reasons discussed for original claim 14, new claim 53 for the reasons discussed for original claim 16, new claim 57 for the reasons discussed for original claim 20 and new claim 58 for the reasons discussed for original claim 21.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 11, 40, 47 and 48 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maruta.

Claims 10 and 11 are pending as originally filed. The rejection is maintained for the reasons of record. As to new dependent claim 40, the inert atmosphere in Maruta is maintained to teach the presence of oxygen in that the ozonizer will spontaneously decompose ozone to dioxygen and atomic oxygen, absent of a showing by applicant that the claimed invention distinguishes over the reference. Oxygen gas reads on the claimed Markush group of gases.

Under this ground of rejection, new dependent claims are treated as follows: new claim 47 for the reasons discussed for original claim 10, and new claim 48 for the reasons discussed for original claim 11.

Claims 12 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta in view of Köhler (U.S. Pat. 5,800,947)

Claim 12 is pending as originally filed. The rejection is maintained for the reasons of record. As to a spherical shape for the particles, while it is reasonably presumed that the particles in Maruta, being in powdered form, are substantially spherical, it would have been obvious to one of ordinary skill in the art to employ

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spherical particles in order to achieve a high packing density and resulting high capacity per unit volume. (see Köhler et al. at col. 3 line 31 et seq.)

New dependent claim 49 is treated in this ground of rejection for the reasons discussed for original claim 12.

Claims 17 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta in view of Yao et al. (U.S. Pat. 5,759,718)

Claim 17 is pending as originally filed. The rejection is maintained for the reasons of record. Maruta does not explicitly teach nickel hydroxide oxyhydroxide with cobalt oxyhydroxide. However, Yao et al. teaches cobalt oxyhydroxide as an additive. (col. 4 line 45-51) Thus, the skilled artisan would find obvious to include cobalt oxyhydroxide in Maruta's invention. The motivation for such a modification would be to form an electroconductive network in the positive electrode. (*ib*)

New dependent claim 54 is treated in this ground of rejection for the reasons discussed for original claim 17.

Claims 15, 18, 19, 52, 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta in view of Kodama et al. (JP 2001-202956)

Claims 15, 18 and 19 are pending as originally filed. The rejection is maintained for the reasons of record. Maruta does not explicitly teach a hydroxide salt such as gold hydroxide. However, Kodama et al. teaches addition of gold, *inter alia*, as a trivalent metal ion to the cathode (par. [0035]) The addition of gold is preferably in hydroxide form. (par. [0022]) As to an oxidation promoting additive of "gold (+3) hydroxide",

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Kodama et al. teaches that the oxidation evolution potential, i.e. oxidation reaction potential is optimized by the addition of the gold hydroxide within a specified weight ratio. (par. [0024]) Thus, the skilled artisan would find obvious to add gold hydroxide as an oxidation promoting additive for reasons such as attaining high charging efficiency and maintaining a high-rate discharge property. (par. [0006])

New dependent claim 52 is treated in this ground of rejection for the reasons discussed for original claim 15, new dependent claim 55 is treated in this ground of rejection for the reasons discussed for original claim 18 and new dependent claim 56 is treated in this ground of rejection for the reasons discussed for original claim 19.

Claims 29-37, 39 and 59-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maruta in view of Wang et al.

The rejection is maintained for the reasons of record and for the additional reasons to follow in response to applicant's salient arguments. The examiner notes that much like in independent claim 1 as discussed above, independent claims 29 and 30 have been amended to recite a "substantially air-free" inert atmosphere. As above, Maruta's atmosphere is considered substantially air-free to the extent that oxygen and not air is present. While Maruta does not disclose a separator as part of the battery which is manufactured, Wang et al. teaches a separator in a battery cell. One of ordinary skill in the art would find obvious to employ a separator in Maruta's invention in order to maintain electrical polarity between the positive and negative electrodes.

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New claims 60 and 63 are notably modeled after original independent claims 29 and 30, respectively, with the exception that the inert atmosphere is “substantially free of carbon dioxide”. This feature is considered taught by Maruta as previously applied for claim 4, in that the mixed gas atmosphere is specifically disclosed as consisting of oxygen and ozone, thus, it is considered that the atmosphere is substantially free of carbon dioxide and water.

Under this ground of rejection, new dependent claims are treated as follows: new claim 36 for the reasons discussed for original claim 4, new claims 33, 37, 61 and 64 for the reasons discussed for original claim 5, new claims 34 and 38 for the reasons discussed for original claim 6, and new claims 35, 39, 59, 62 and 65 for the reasons discussed for original claim 10 and for new dependent claim 40 (discussed above).

Response to Arguments

Applicant's arguments filed with the present amendment have been fully considered but they are not persuasive. Applicant's argument appears to be one-fold: that Maruta nor the secondary references do not teach a substantially air-free atmosphere. However, as discussed *supra*, a substantially-air free atmosphere does not preclude an oxygen-containing atmosphere in that air is a mixture of nitrogen and oxygen, while Maruta uses pure oxygen gas. Air and oxygen are not one of the same.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature, possibly reading "jam", enclosed within a large, loopy oval shape.


Patrick Ryan
SBB-AV 1745